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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/924,620	08/07/2001	Marcus Tong	2001P4227US01	3155

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Siemens Corporation
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186 Wood Avenue South
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EXAMINER

LEVITAN, DMITRY

ART UNIT	PAPER NUMBER
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2416

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01/09/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/924,620	Applicant(s) TONG ET AL.	
	Examiner Dmitry Levitan	Art Unit 2416	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10, 12, 14, 19 and 20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 12, 14, 19 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Amendment, filed 10/14/08, has been entered. Claims 1-10, 12, 14, 19 and 20 remain pending.

Claim Rejections - 35 USC § 112

1. Claims 5-10, 12 and 14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 5, 12 and 14 limitations, directed to “second clock domain external the first clock domain” are not supported by the disclosure, as filed. The original disclosure describes first and second clock domains, as operable at corresponding first and second frequencies, without any in-depth information on correlation between the domains.

2. Claims 5-10, 12, 14 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 5, 12 and 14 limitations, directed to “second clock domain external the first clock domain” are unclear, because it is not understood what different frequency domains are considered external to each other and what are not.

Claims 4, 8 and 19 limitations, directed to “said/second clock frequency comprising a frame clock rate” are unclear, because it is not understood how a clock/frequency can comprise another clock/frequency, as the frequencies which are interrelated, as being multiples of the same

source frequency, do not comprise each other or the source frequency, as 8 KHz does not comprise 4 KHz or 2KHz does not comprise 4 KHz.

Other claims are rejected as the claims depending on the claims rejected above.

Claim Rejections - 35 USC § 103

3. Claims 1-10, 12, 14, 19 and 20 are rejected (as best understood) under 35 U.S.C. 103(a) as being unpatentable over Greenblatt (US 5,136,586) in view of Matsumoto (US 5,812,944).

4. Regarding claims 1, 5, 12 and 19, Greenblatt substantially teaches the limitations of the claims:

A system and a method for rate adaptation in a communication system (multiplexing a voice signal into a frame, as shown on Fig.1-3, and disclosed on 2:33-3:50), comprising:

first circuitry in a first clock domain operable at a first clock frequency (A-D converter operable at clock C, as shown on Fig. 2 and disclosed on 2:45-55);

second circuitry in a second clock domain operable at a second clock frequency (D-A converter operating at a higher frequency C2, as shown on Fig.2 and disclosed on 2:56-61);

first and a second buffer pair interfacing between said first circuitry and said second circuitry domain, said first buffer pair comprising first and second jitter buffers (a pair of buffers A and B, interfacing A-D and D-A converters, as shown on Fig. 2 and disclosed on 3:5-16, wherein the buffers A and B are jitter buffers, because the buffer data is read out by the corresponding clock), wherein said first or second jitter buffers alternately fill at said first clock frequency and empty at said second clock frequency, wherein alternation between said first and second buffers occurs simultaneously at said second clocking frequency, said first clocking frequency associated with a

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sample clock, said second clocking frequency associated with a frame clock (alternating at each frame interval/clock entering data into buffers at first frequency C, which is a sample frequency 8 KHz, and read out data from buffers at second frequency C2, as disclosed on 3:6-16, wherein the second frequency C2 is associated with a frame clock, as CLOCK C2 is derived from FRAME PULSE, as shown on Fig. 2 and disclosed on 3:61-4:9).

Greenblatt does not teach implementing his system as a wireless system and using a second buffer pair comprising third and fourth buffers.

Matsumoto teaches a by-directional wireless system, wherein the communication system for voice is implemented by radio means and provide audio conversion in both directions to accommodate both speaker 25 and microphone 10, as shown on Fig. 1.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add implementing the communication system as a wireless and by-directional system of Matsumoto to the system of Greenblatt, adding third and fourth buffers for the other direction of voice transmission, to implement the system in wireless environment to provide mobility to the users and adapt the system for the typical by-directional voice communication.

In addition, regarding claim 5, Greenblatt inherently teaches audio input and output in the system, because they are essential for the system operation to receive the audio signal from a microphone and transmit the output audio signal to telephone lines, as shown on Fig. 2. and buffers A and B inherently comprising interface circuitry, because interface circuitry is essential for the system to connect A-D and D-A elements to the buffers.

In addition, regarding claims 5, 12 and 14, Greenblatt teaches two clock domains, operating on separate frequencies C and C2, as shown on Fig. 2 and 5, and described on 3:5-15,

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wherein the clock domains can be generated from a high speed system clock, but are external to each other, as they correspond to different D-A and A-D circuitries.

5. Regarding claims 2, 3 and 6, Matsumoto teaches using encoders and decoders for digital signal processing 30 to exclude echo from the wireless system, as shown on Fig. 1 and disclosed on 2:23-3:9.

6. Regarding claim 7, Greenblatt teaches using first frequency as the 8 KHz sampling frequency at A-D conversion, which is a PCM conversion, disclosed on 2:45-55.

7. Claims 4, 8 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Greenblatt in view of Matsumoto.

Greenblatt in view of Matsumoto substantially teaches the limitations of the claims (see claims rejection above), in addition Greenblatt teaches the second frequency C2 related to the frame clock, as CLOCK C2 is derived from FRAME PULSE, as shown on Fig. 2 and disclosed on 3:61-4:9.

Greenblatt in view of Matsumoto does not teach selecting second/C2 frequency equal to the frame frequency.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add selecting second/C2 frequency equal to the frame frequency to the system of Greenblatt in view of Matsumoto to simplify the system by excluding use of an additional frequency, as the frame frequency/FRAME PULSE is already used in the system.

8. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Greenblatt in view of Matsumoto.

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Greenblatt in view of Matsumoto substantially teaches the limitations of the claim (see claims rejection above).

Greenblatt in view of Matsumoto does not teach a frame comprises 160 samples.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add selecting the frame comprising 160 samples to the system of Greenblatt in view of Matsumoto as a design choice, as frames comprising 80 samples or 320 samples will work in the system as well.

9. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Greenblatt in view of Matsumoto.

Greenblatt in view of Matsumoto substantially teaches the limitations of the claim (see claims rejection above).

Greenblatt in view of Matsumoto does not teach buffers length as 165 samples.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add selecting the buffers length as 165 samples to the system of Greenblatt in view of Matsumoto as a design choice, as buffers comprising 164 samples or 166 samples will work in the system as well.

10. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Greenblatt in view of Matsumoto.

Greenblatt in view of Matsumoto substantially teaches the limitations of the claim (see claims rejection above).

Greenblatt in view of Matsumoto does not teach using system in a GSM/TDMA multi-mode phone.

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Official notice is taken that GSM/TDMA multi-mode telephones are well known in the art.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the system of Greenblatt in view of Matsumoto as a GSM/TDMA multi-mode telephone system, to make the system compatible with two popular wireless standards.

Response to Arguments

11. Applicant's arguments filed 10/14/08 have been fully considered but they are not persuasive.

On page 6 of the Response, Applicant argues that claim limitations, directed to clock frequency comprising a frame clock rate are clear.

Examiner respectfully disagrees.

Applicant failed to clarify how clock frequency can comprise any clocking rate.

Examiner understands a clock frequency being proportionate to a clock rate or a composite signal comprising two frequencies, but the cited limitations remain unclear.

It is not understood what evidence, as requested by Applicant, can clarify the claims limitations.

Examiner believes that a clock frequency can be proportionate to any clocking rate, but comprising the clocking rate, which inherently comprises the clocking rate deviations, is different from the clock frequency being proportionate.

On pages 7 and 8 of the Response, Applicant argues that Greenblatt does not teach using two clocks domains, because both clocks C and C2 are derived from a single source.

Examiner respectfully disagrees.

Greenblatt clearly teaches using two domains, one is A-D converter, which is domain of clock C and the other is D-A converter, which is domain of clock C2, as shown on Fig. 2 and disclosed on 3:5-15. These clocks operate at different frequencies, wherein the relation between the frequencies is variable, as shown on Fig. 5, and first frequency corresponds to A-D circuitry requirements and second frequency corresponds to D-A circuitry requirements.

The specification, as filed, does not teach these two frequencies/domains to have independent clock sources, as no portion of the specification supports arguments on page 7, directed to the second clock as “remotely derived” or describes clocks/domains as independent.

The disclosure describes clock at Y and Z as “derived from an external source” but does not provide any in-depth information on what source is considered “external”, as the source of high speed system clock on Fig. 5 is external to any of the clocks C or C2.

Therefore, Fig. 5 of Greenblatt, showing clock C and clock C2 generated from a single high speed clock, does not contradict the claims limitations, as using two frequency dividers, as shown on Fig. 5, can produce any desirable ratio of clocks C and C2 frequencies.

On pages 7 and 8 of the Response, Applicant argues that Greenblatt and Matsumoto do not teach using four buffers.

Examiner respectfully disagrees.

Greenblatt teaches a unidirectional system, from a single voice source to a telephone line, containing two buffers and a voice communication system of Matsumoto requires simultaneous

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use of both directions, from two users/two voice sources to the telephone lines, and duplication of the buffers of Greenblatt for the second direction.

See claims 1, 5, 12 and 19 rejections for details.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dmitry Levitan whose telephone number is (571) 272-3093. The examiner can normally be reached on 8:30 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Dmitry Levitan
Primary Examiner
Art Unit 2416

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